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"Effectiveness of Structured Teaching Program (STP) on Knowledge & Attitude regarding Dementia among Adults in selected villages at Kolar"

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ABSTRACT

Introduction: Dementia is a growing public health concern, especially with the increasing aging population. Adequate knowledge and a positive attitude towards dementia are crucial for early detection, management, and reducing stigma.

Aim/Objectives: This study aims to evaluate the effectiveness of a Structured Teaching Program (STP) on improving knowledge and attitude regarding dementia among adults in selected villages of Kolar.

Methods: A quasi-experimental one-group pretest-posttest design was used. Sixty adults were selected using a non-probability convenient sampling technique. Data was collected using a Structured Knowledge Interview Schedule (SKIS) and a Structured Attitude Interview Schedule (SAIS). Participants underwent a pretest assessment, followed by an STP intervention, and a post-test was conducted using the same tool. Descriptive and inferential statistics were used for data analysis.

Results: The mean pretest knowledge score was 12.77 (SD = 2.168), which significantly improved to 21.9 (SD = 1.591) in the post-test ($t = 24.231$, $p < 0.001$). Similarly, the mean attitude score increased from 27.03 (SD = 5.129) to 31.13 (SD = 2.325) ($t = 5.094$, $p < 0.001$), indicating a statistically significant improvement.

Conclusion: The findings suggest that the Structured Teaching Program was effective in enhancing knowledge and fostering a positive attitude towards dementia among adults. Such educational interventions can play a crucial role in community-based dementia awareness and prevention strategies.

Key Words: Dementia, Structured Teaching Program, Knowledge, Attitude, Health Education, Quasi-Experimental Study.

INTRODUCTION

Aging is often associated with concerns about cognitive decline, leading many to fear losing their ability to think, reason, or remember. In the past, memory loss and confusion were commonly dismissed as a normal part of aging. However, scientific advancements have demonstrated that older adults maintain cognitive alertness, and significant personality or behavioral changes may indicate a brain disorder such as dementia.[1]

Dementia is a progressive neurodegenerative syndrome that affects memory, thinking, behavior, and emotional well-being. It is one of the leading causes of disability and dependency among older adults worldwide.[2] The condition not only affects those diagnosed but also places a significant burden on caregivers, families, and society. The physical, psychological, social, and economic challenges associated with dementia contribute to stigmatization and barriers to early diagnosis and care.[3]

Globally, dementia is a growing public health concern. According to the World Health Organization 2017 an estimated 50 million people were living with dementia, with nearly 60% residing in low- and middle-income countries. These numbers are expected to rise to 82 million by 2030 and 152 million by 2050. The annual number of new cases is approximately 9.9 million, representing a 30% increase from the estimates in 2010. Alzheimer's disease, the most common form of dementia, accounts for 60–70% of cases.[4,5]

Despite its increasing prevalence, awareness and understanding of dementia remain limited in many communities. Given that almost every household has elderly members,

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community-based education and awareness programs are essential to improving knowledge and attitudes toward dementia. Structured Teaching Programs (STPs) can serve as effective interventions to enhance public understanding, reduce stigma, and promote early recognition and support for those affected by dementia.[6-10]

This study aims to assess the effectiveness of a Structured Teaching Program (STP) in improving knowledge and attitude regarding dementia among adults in selected villages of Kolar. By evaluating the impact of educational interventions, this research seeks to contribute to community-level dementia awareness and care strategies.

MATERIALS AND METHODS

Study Design and Setting: A quasi-experimental one-group pretest-posttest research design was used to assess the effectiveness of a Structured Teaching Program (STP) on knowledge and attitude regarding dementia among adults in selected villages of Kolar.

Ethical Considerations:

Prior to conducting the study, permission was obtained from the Medical Superintendent of E.T.C.M Hospital, Kolar. (Approval No: IEC/2020/041) The purpose and significance of the study were explained to the relevant authorities. Informed consent was obtained from all participants after providing details about the study objectives, ensuring their voluntary participation. Confidentiality and anonymity of the participants were maintained throughout the study.

Sample Size: 60 adults were the sample size for this study as mentioned in the inclusion criteria.

The sample size was estimated using the formula

$$n = \frac{Z^2 \times \sigma^2}{d^2}$$

$$n = \frac{(1.96)^2 \times (3.55)^2}{(0.9)2}$$

n = 59.73

Where,

n = required sample size

Z^2 = standard table value for 95% confidence interval (1.96)

σ = Standard deviation (3.55)

d = precision (0.9)

Through this recommended sample size was 59.73; the study was conducted among 60 samples after discussion with the experts.

Sampling technique: Sampling technique used in the study is non- probability convenience sampling.

Inclusion Criteria:

- Adults aged 18 years and above.
- Individuals who are able to read and understand the language used in the structured teaching intervention.
- Participants who gave informed consent to participate in the study.
- Individuals who had not received any formal education or training about dementia prior to the study.
- Participants who were available during the data collection period.

Exclusion Criteria:

- Individuals with a diagnosed cognitive impairment or mental health condition that could interfere with understanding or responding to the attitude scale.
- Participants who refused to provide informed consent.
- Individuals who had prior formal education, training, or professional experience related to dementia care (e.g., healthcare workers, caregivers).
- Incomplete or improperly filled pre-test or post-test responses.

Data Collection tools: The tool was prepared based on the research problem, objectives of the study stated were assessed by using Structured Knowledge Interview Schedule (SKIS), Structured Attitude Interview Schedule (SAIS) and Structured Teaching Programme (STP) were prepared to evaluate the knowledge and attitude of adults.

Section-I: Proforma on Demographic Data comprised of 12 items seeking information on demographic data such as age, gender, educational status, occupation, family income, religion, type of family, marital status, and history of psychiatric disorder, family member having the history of mental illness, previous knowledge and sources of information regarding Dementia

Section II: Structured Knowledge Interview Schedule (SKIS) consists of 30 knowledge items to assess the level of knowledge regarding the Dementia.[11-12]

Section III: Structured Attitude Interview Schedule (SAIS) consists of 22 statements.[13]

Data Collection Procedure: The data collection was carried out from **July 26, 2020, to August 8, 2020**. The researcher introduced herself to the participants and explained the purpose of the study. The study was conducted in the following phases:

- ✓ **Pretest:** On the first day, a baseline assessment was conducted using a **Structured Knowledge Interview**

Schedule (SKIS) and a Structured Attitude Interview Schedule (SAIS) to evaluate participants' initial knowledge and attitudes regarding dementia.

- ✓ **Intervention:** On the second day, the **Structured Teaching Program (STP)** was administered to educate participants about dementia, its causes, symptoms, management, and caregiving strategies.
- ✓ **Posttest:** After the STP, a posttest was conducted using the same SKIS and SAIS to assess the effectiveness of the intervention.

Data Analysis:

The collected data was analyzed using descriptive and inferential statistics to determine the impact of the Structured Teaching Program on participants' knowledge and attitudes.

RESULTS

Table 1: Association of Knowledge scores of Adults with selected demographic variables.

N = 60

Variables	Below Median	Median and above	Chi square	Df	p value (0.05)	Inference
1. **Age in years**						
a. 40-45 years	7	12	5.731	3	0.125	NS
b. 46-50 years	6	10				
c. 51-55 years	9	4				
d. 56-60 years	3	9				
2. **GENDER**						
a. Male	13	23	1.143	1	0.285	NS
b. Female	12	12				
3. **EDUCATION**						
a. Primary education	9	15	2.278	5	0.810	NS
b. Secondary education	10	11				
c. Higher secondary education	1	1				
d. Graduation	4	4				
e. Post-graduation	0	2				
f. No formal education (Illiterate)	1	2				
4. **Occupation**						
a. Farmer	8	13	2.048	4	0.727	NS
b. Housewife	11	12				
c. Self employed	5	6				
d. Businessman	1	2				
e. Professionals	0	2				
5. **Family income**						
a. Less than Rs. 10000/month	18	24	0.813	3	0.846	NS
b. Rs. 10001-20000/ month	6	9				
c. Rs. 20001-30000/ month	1	1				
d. More than Rs. 30001/ month	0	1				
6. **Religion**						
a. Hindu	25	35	-	-	-	-
7. **Type of family**						
a. Joint family	18	26	0.039	1	0.844	NS
b. Nuclear family	7	9				

Table 1: ***(Continued)***

Variables	Below Median	Median and above	Chi square	Df	p value (0.05)	Inference
8. **Marital status**						
a. Married	25	34	0.726	1	0.394	NS
b. Unmarried	0	1				
9. **History of Psychiatric disorders**						
a. No	25	35	-	-	-	-
10. **Family history of mental illness**						
a. No	25	35	-	-	-	-
11. **Previous Knowledge**						
a. Yes	1	6	2.444	1	0.118	NS
b. No	24	29				
12. **Source of information**						
a. Newspaper/ Magazines	1	2	3.228	3	0.358	NS
b. T.V./ Internet	0	2				
c. Health Professionals	0	2				
d. Nil	24	29				

Data presentation: The table 1 shows that the obtained $\chi 2$ value is less than the table value at 0.05 levels of significance. Therefore there is no significant association between knowledge scores of adults with selected demographic variables such as age, gender, educational status, occupation, family income, type of family, marital status, Any Previous knowledge regarding Dementia and Sources of information regarding Dementia.

Table 2: Pre-test and post-test knowledge level of adults

N=60

Knowledge level	Pre test		Post Test	
	Frequency	Percent	Frequency	Percent
a. Inadequate knowledge	53	88.3	0	0.0
b. Moderate knowledge	7	11.7	33	55.0
c. Adequate knowledge	0	0.0	27	45.0
Total	60	100	60	100

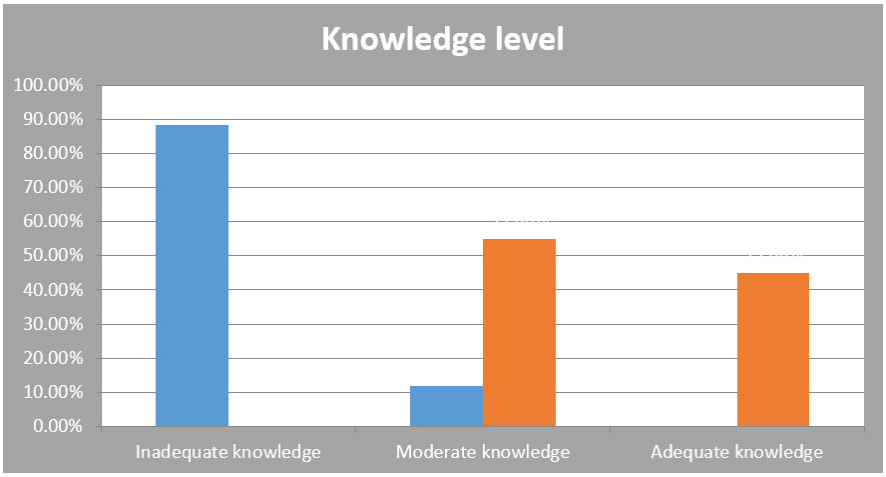

Figure 1: Pre-test and post-test Knowledge level of adults regarding Dementia

Table: 2 and Fig 1 Shows that the knowledge level of adults 53(88.3%) had Inadequate knowledge, 7(11.7%) had Moderate knowledge in pre-test where as in post-test 33(55.0%) had Moderate knowledge, 27(45.0%) had Adequate knowledge.

Table 3: Pretest and Posttest Attitude Level of Adults Regarding Dementia

Attitude level	Pre test		Post Test	
	Frequency	Percent	Frequency	Percent
Unfavorable attitude	10	16.7	0	0.0
Moderately favorable attitude	37	61.7	49	81.7
Favorable attitude	13	21.7	11	18.3
Total	60	100	60	100

Table 3 Pre-Test and Post-Test Attitude of Adults N=60

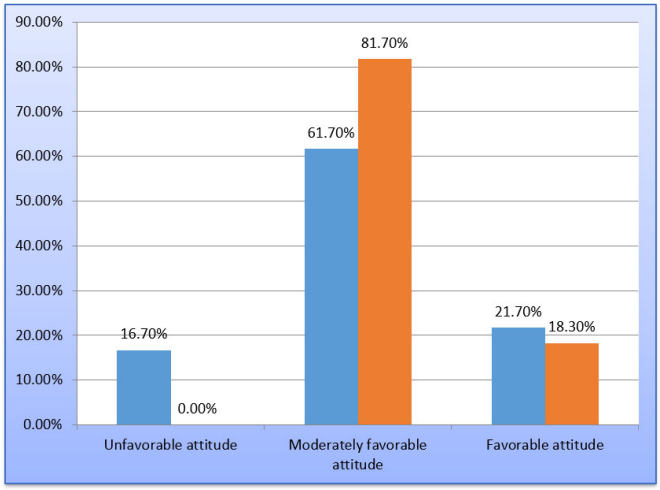

Figure 2: Pretest and posttest attitude level of adults regarding dementia.

The table 3 and Fig 2 shows that in the pre-test, majority 37 (61.7%) had Moderately favorable attitude and 13 (21.7%) had favorable attitude and 10 (16.7%) had unfavorable attitude regarding dementia. whereas in the post test after imparting Structured Teaching Programme (STP), majority 49(81.7%) had Moderately favorable attitude, 11(18.3%) had favorable attitude and 0% had unfavorable attitude regarding Dementia among adults.

DISCUSSION

The findings of the study were discussed with reference to the objectives stated in chapter I and with the findings of the other sections. The present study was undertaken as, "assess the effectiveness of Structured Teaching Program (STP) on knowledge & attitude regarding Dementia among adults in selected villages at Kolar. The distribution of adults according to their previous knowledge regarding dementia; 53(88.3) of adults did not have any previous knowledge about dementia, while 7(11.7%) of adults had previous knowledge about dementia. The overall knowledge scores of the study show that the mean pre-test score was 12.77 with the standard deviation of 2.168, whereas in post- test it was 21.9 with the standard deviation of 1.591 the mean difference in pre-test and post test scores was 9.13. The calculated value was 24.231. It shows that the calculated t 'value was much higher than the tabulated't' value. It shows that there was a significant improvement in the knowledge of adults after structured teaching.

The overall attitude scores of the mean pre-test score was 27.03 with the standard deviation of 5.129, whereas in post-test it was 31.13 with the standard deviation of 2.325 The mean difference in pre-test and post test scores was 4.1 The calculated't' value was 5.094 whereas the tabulated't' value was 2.057, it shows that the calculated 't' value was much higher than the tabulated 't' value. It shows that the structured teaching was effective in significantly improving the attitude of adults regarding the dementia.

The findings of the present study align with previous research that highlights the effectiveness of structured teaching in improving attitudes toward dementia. For instance, a study by Smith et al. (2020) found a statistically significant improvement in participants' attitudes following a dementia education program, with a mean score increase of 3.8 and a t-value of 4.72. Similarly, Kumar and Sharma (2018) reported that after a structured teaching intervention, participants' mean attitude scores increased from 26.5 to 30.9, indicating a positive shift in perception. The current study's t-value of 5.094, which exceeds the critical value of 2.057, supports these findings by demonstrating a significant enhancement in attitudes after the educational intervention. This reinforces the conclusion that structured teaching is an effective method for increasing awareness and improving attitudes among adults toward dementia. [14-17]

CONCLUSION

The overall mean score of knowledge was 12.77 with standard deviation of 2.168, where as in the post test the mean score of knowledge was 21.9 with the standard deviation of 1.591 and the t=24.231 was found to be significant at $p<0.001$ level. This clearly shows that the structured teaching programme on knowledge and attitude regarding dementia among adults had significant improvement in their level of knowledge in the post test.

The findings of the present study have implication not only in the field of nursing but also in allied areas. The information obtained could be utilized by the educators, curriculum planners and administrators in order to integrate dementia programs into the educational as well as training Programme as dementia remains a national priority and major problem.

More research work needs to be conducted in this area in order to identify the problems related to dementia. The findings of the study may be helpful for the future studies.

- Regular health education program on Dementia should be carried out by Community Mental Health Nurse in community areas.
- The mental health educators can assess needs of the adults regarding various aspects of dementia and provide services to them through organizing health check -up camps at village level.
- Family members to provide the adults with a secure & healthy environment to avoid dementia and related complications.
- Organize health camps to identify high-risk adults for dementia in the community areas.
- Formal education Programme should be conducted in all Sub-centers, PHC regarding dementia.
- The study can be replicated on a large sample; and on various settings, so that findings can be generalized to a large population.
- Such studies can be carried out using other teaching strategies like structured teaching, computer-assisted instruction on dementia etc.
- Comparative surveys can be carried out to ascertain the knowledge of dementia among adults between urban and rural area of the community.
- Similar studies can be conducted on to evaluate the effectiveness of self -instructional module on dementia.

Limitations and Scope: This study is limited to those adults only who are readily available in the selected community area. Non probability convenient sampling was done which restrict the generalization of the study.

While the study demonstrated a significant improvement in participants' attitudes toward dementia following the structured teaching intervention, several limitations must be acknowledged.

Sampling Method: The use of a non-random, possibly convenience-based sampling method may limit the generalizability of the findings. The participants may not accurately represent the broader population of adults, as they could have had prior interest or exposure to dementia-related topics, introducing selection bias.

Lack of a Control Group: The absence of a control group means that the observed changes in attitude cannot be conclusively attributed to the structured teaching intervention alone. External factors such as prior knowledge, concurrent information exposure, or social desirability may have influenced post-test scores.

Response Bias: Given the self-reported nature of the attitude scale, there is a risk of response bias, particularly social desirability bias, where participants might provide answers they perceive as socially acceptable rather than their true beliefs. This could artificially inflate post-test scores.

Implications

Nursing Education: Nurse Educators should emphasize dementia-related topics in their curriculum, covering its causes, effects, treatment, and preventive strategies. Incorporating dementia education into nursing training will equip future nurses with the necessary skills to provide appropriate care and support to affected individuals and their caregivers.

Nursing Administration: Nurse Administrators should take the initiative in organizing continuing education programs for healthcare professionals. Regular workshops, training sessions, and seminars can enhance nurses' knowledge and skills regarding dementia care, ensuring they are updated with the latest evidence-based practices.

Nursing Research: Further research is essential to assess public knowledge and attitudes toward dementia. Studies should be conducted to develop and evaluate health education packages tailored for different communities. Additionally, research on the causes, risk factors, and early detection methods for dementia can help formulate better prevention and management strategies, ultimately improving the quality of life for older adults.[18-20]

Recommendations for Future Studies: Similar studies should be replicated with larger sample sizes across diverse settings to enhance the generalizability of findings. Longitudinal studies can be conducted to assess the long-term impact of Structured Teaching Programs on dementia awareness.

Research should focus on developing innovative community-based interventions to support individuals at risk of dementia and their caregivers. By implementing these nursing implications, healthcare professionals can contribute to improved dementia awareness, early detection, and better care outcomes in the community.

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Conflict of Interest: None

Competing interests: The authors declare no competing interests.

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Authors' Contribution:

1. **Mr. Sheshadri K.S. (First Author)** conceptualized the study, designed the Structured Teaching Program (STP), collected and analyzed data, and drafted the initial manuscript. He was actively involved in all stages of the research and takes primary responsibility for the integrity of the work.
2. **Prof. (Mr.) Praveen Loni (Second Author)** guided the research process, provided expert input in the development of the Structured Teaching Program (STP), assisted in the validation of tools, and offered critical revisions to the manuscript. He also contributed to the interpretation of findings and approved the final version for publication.
3. **Mr. Sheshadri K.S.** served as the corresponding author, overseeing the manuscript review, editing, and submission process. He provided critical guidance throughout the research, contributed to the final interpretation of data, and ensured the accuracy and integrity of the study's reporting.

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